

## **CYCLIN-DEPENDENT KINASE INHIBITORS AS PLANT GROWTH REGULATORS**

### **ABSTRACT**

Methods for using cyclin-dependent kinase (CDK) inhibitor genes, or anti-  
5 sense constructs complementary to such genes, to modify the growth and  
development of plant cells and organs are disclosed. Also provided are methods of  
modifying the development of plant cells and plants by transforming plant cells with  
nucleic acids encoding cyclin-dependent kinase inhibitor polypeptides, or anti-sense  
10 constructs complementary to such nucleic acids, to produce transformed plant cells,  
and then culturing the plant cells or regenerating a plant under conditions wherein  
the cyclin-dependent kinase inhibitor, or the anti-sense construct, is expressed. A  
variety of CDK inhibitor genes, and corresponding anti-sense constructs, are  
disclosed for use in a variety of plants. The nucleic acid encoding the cyclin-  
15 dependent kinase inhibitor may be operably linked to a tissue-specific promoter.  
Other provided aspects are modified transgenic plants and plant tissues. Also  
provided are methods of identifying nucleic acids that encode cyclin-dependent  
kinase inhibitors that are active in plants to modify the development of the plant.

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